

NEW ZEALAND  
**PATENT SPECIFICATION**

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5 The present invention relates to feminine hygiene products and more specifically to pants liners which are attached to an outer garment, such as a pair of slacks or panty hose or the like inner garment.

10 BACKGROUND OF THE INVENTION

Complete hygienic and sanitary protection frequently includes the use of thin absorbent structures commonly known as panty shields or panty liners. These products are typically used either in conjunction with catamenial  
15 tampons during menstruation to absorb excessive exudates or, alternatively, are worn during other phases of the menstrual cycle to absorb small quantities of menstrual, urinary or other fluids. The purpose of such panty liners is to absorb these body fluids and prevent them from  
20 staining both the wearer's undergarments and, more importantly, other garments which conform to the perineal area. Examples of such garments are slacks, shorts, dancing and gymnastic tights, and stretch pants.

25 Normally, panty liners are provided with adhesive means which affixes the garment facing surface of the panty liner to the user's undergarment and holds it in position. This type of fastening system ensures that the absorbent, body facing side of the panty liner contacts  
30 the perineal area of the user. For various reasons, however, the outer garments listed above may be worn in direct contact with the user's body, that is, the user does not wear an undergarment. In this situation, the panty liners found in the prior art cannot be used  
35 effectively. Usually, the crotch portion of a garment,

absorbency desired and the microcreping equipment used. In the embodiment illustrated, a one inch wide strip was microcreped down the center of a twelve inch wide fabric. The polyester was thermally stabilized during the creping process. This material was then cut into samples about five inches wide and eight inches long. Most preferably, the microcreping process is a compressive treatment process. This process can be implemented, for example, using a MICREX/ Microcreper, supplied by the Bird Machine Company, Inc. of South Walpole, Massachusetts, U.S.A. Preferably, the maximum amount of compaction resulting from this process is less than about 50%. In a most preferred embodiment, the compaction is between about 5% to about 30%.

As shown in Fig. 5, the microcreped fabric which forms the conformable structure of the present invention will comprise alternating portions of convoluted and compressed areas within the central microcreped portion 22. The laterally extending portions 24, 26 are preferably not compressed to any great extent. It may also be observed in FIG. 5 that a most preferred embodiment of the present invention comprises a single thickness fabric structure. It will be understood, however, that other layers of materials may be incorporated into the present invention. For example, absorbent layers, fluid repellent layers or both may be laminated to form an absorbent structure. The resulting structure may then be microcreped and otherwise formed to result in a panty liner made in accordance with the present invention. As well known to those of ordinary skill, the microcreping process may be applied to paper webs, woven fabrics, non-woven fabrics, or laminates made from one or more of these materials. Moreover, any of these materials may be chemically or otherwise treated to increase either

hydrophobicity or hydrophobicity, depending upon whether the application of such treatment is to be garment facing side or the body facing side of the panty liner.

5 In a preferred embodiment of the present invention, a pants liner 20 formed, as illustrated in FIG. 5 by first trimming the sample to provide rounded corners and otherwise provide a finished shape. Adhesive strips 27,28 are then applied to one side of the finished pants liner  
10 20. Most preferably, the adhesive strips 27,28 are covered with release paper.

Referring now to FIG. 6, there is illustrated a perspective view of the panty liner 20 depicted in FIG. 5, showing its configuration when emplaced in the crotch portion of an undergarment. The liner 20 is placed over the central seam of the garment such that the creped portion 22 lies directly on the seam and is thus aligned with the perineal area of the user. The laterally  
15 extending ruffled portions 24,26 are placed against the inner surface of the leg portion and lie substantially in conformance therewith. It should be noted that a panty liner of this type may be constructed to cover a greater length of the crotch than a conventional panty liner so  
20 that urinary, anal and menstrual fluids are absorbed.

Thus, as the creped portion 22 of the panty liner 20 is pressed against the curved crotch seam ("X" in FIGS. 1-3), the laterally extending portions 24,26 fall to the  
25 inside of the pant legs, the ruffles created by the creping process are forced to open and expand. The present invention therefore provides a simple approach to producing a product, or component of a product, which conforms to the curved crotch area of a pair of slacks or  
30 the like.

## WHAT WE CLAIM IS:

1. A conformable absorbent structure, wherein a portion of the structure has been creped, whereby the structure when applied to the crotch area of a pair of pants can be folded or draped down the tubular leg portion of the pants without the portion that has been creped exhibiting a tendency to bunch or fold.
2. The conformable structure of claim 1, wherein the structure comprises a fabric comprising rayon and polyester blend.
3. The conformable structure of claim 2, wherein the fabric is roll stock of approximately 2.0 oz./yd.
4. The conformable structure of claim 1, wherein creped portion is a relatively narrow longitudinal strip, and the portions extending therefrom are relatively wide symmetrical portions laterally extending from each side.
5. The conformable structure of claim 4, wherein said creped portion is about 1.0 inches wide and the portions extending therefrom are substantially 2.0 inches wide.
6. The conformable structure of claim 1, wherein the portion of the structure which has been creped has been compressed by less than substantially 50%.
7. The conformable structure of claim 6, wherein the portion of the structure which has been creped is compressed between substantially 8% to substantially 30%.
8. A panty liner, having a body facing side and a garment facing side, comprising:
  - (a) a conformable absorbent structure, wherein a portion of the structure has been creped; and
  - (b) adhesive means disposed on the garment facing side for attaching the panty liner to an outer garment whereby,

16. A conformable absorbent structure substantially as herein described with particular reference to Figures 4 to 6.

FIG 4

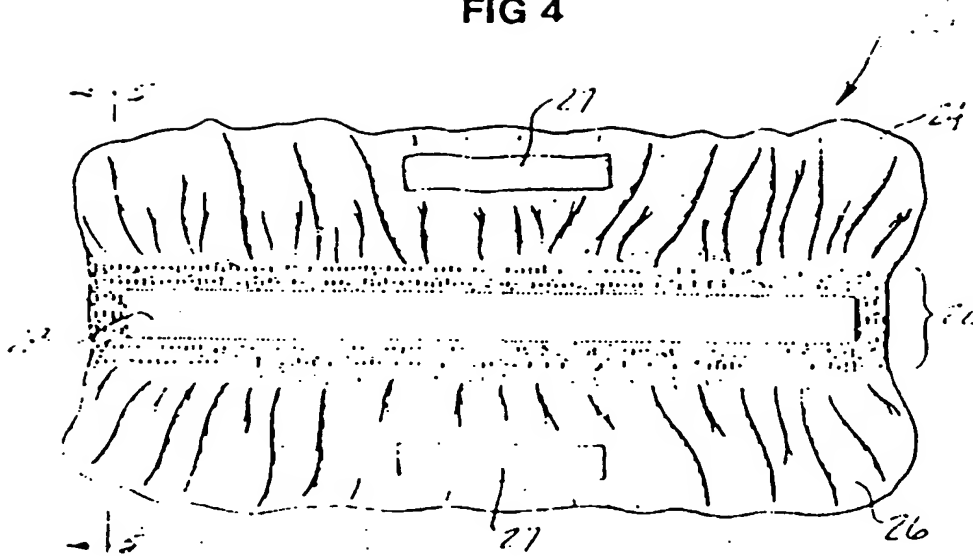


FIG 5

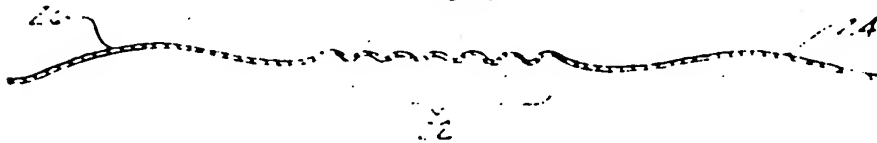
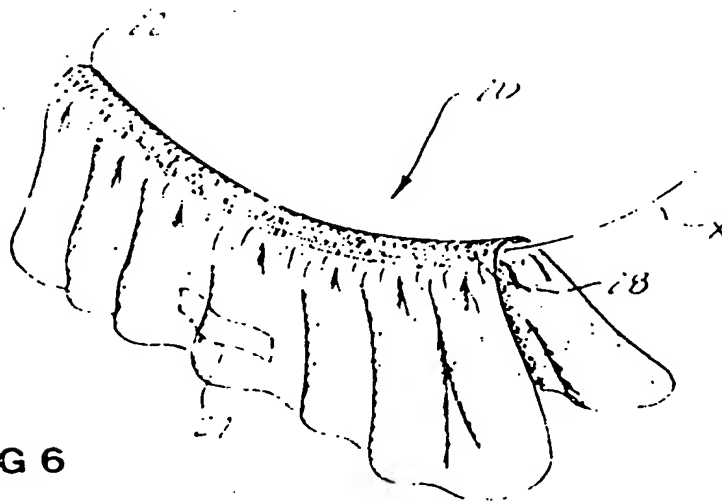


FIG 6



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